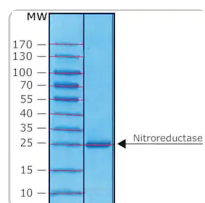


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N9284 ▶ **Sigma-Aldrich**

Nitroreductase from *Escherichia coli*

★★★★★ (0)

≥90% (SDS-PAGE), recombinant, expressed in *E. coli*

Synonyme(s):
NTRA

Numéro MDL:

MFCD03457727

NACRES:

NA.54

Documents[FDS](#)[COO/COA](#)[Fiche des caractéristiques](#)

Référence	Conditionnement	Disponibilité	Prix	Quantité
N9284-1MG	1 MG	Date d'expédition estimée le 10 octobre 2022	Détails... 384,00 €	- +

[Demander une commande en gros](#)[Ajouter au panier](#)

PRODUITS RECOMMANDÉS

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 lyophilized powder, ≥ 300 units/g solid

 ≥ 100 units/mg protein

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PROPRIÉTÉS

Recombinant	expressed in <i>E. coli</i>
Niveau de qualité	200
Essai/Dosage	$\geq 90\%$ (SDS-PAGE)
Forme	lyophilized powder
specific activity	≥ 100 units/mL
Poids mol.	monomer 24000
Caractéristiques du produit alternatif plus écologique	Waste Prevention Safer Solvents and Auxiliaries Design for Energy Efficiency Learn more about the Principles of Green Chemistry .
N° d'accession UniProt	P17117

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Temp. de stockage

-20°C

Gene Information

Escherichia coli K12 ... [nfsB\(945483\)](#)**Catégories apparentées**[Greener Alternative Products](#)

DESCRIPTION

Description générale

Nitroreductase is a flavoprotein and is encoded by the *NfsB* gene. It comprises a dimer, with 217 amino acids and active site in each subunit. The structure has FMN and the substrate bound to the enzyme.

Application

Nitroreductase from *Escherichia coli* has been used in the conjugation generation with pig liver esterase (PLE). It has also been used in chemiluminescence response studies with probes HyCL-3 and HyCL-4-AM in rat liver microsomes.

Actions biochimiques/physiologiques

Nitroreductase (NTR) catalyzes the reduction of nitroaromatic substrates and quinones. The mutant F124K of NTR is useful in cancer therapy and improves sensitization of drug CB1954.

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Shows ability to reduce quinines. Enzyme for activating prodrugs in antibody directed enzyme prodrug therapy.

Propriétés physiques

Lyophilized powder containing PBS. Does not contain BSA as excipient

Définition de l'unité

One unit will reduce one μ mole of Cytochrome C per minute in the presence of Menadione and NADH at pH 7.4 at 37 °C.

Notes préparatoires

Produced using animal component-free materials.

INFORMATIONS SUR LA SÉCURITÉ**Code de la classe de
stockage**

13 - Non Combustible Solids

WGK

WGK 3

Flash Point(F)

Not applicable

Point d'éclair C

Not applicable

DOCUMENTATION**Certificat d'analyse**

Saisir un numéro de lot pour rechercher un certificat d'analyse (COA).

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Certificat d'origine

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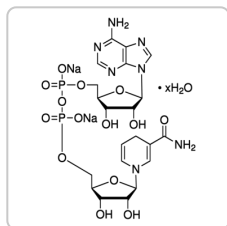
Numéro de lot

e.g. 023J5431

Comment saisir un numéro de lot (COO)

Rechercher

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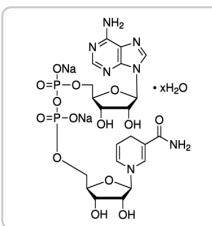
Sigma-Aldrich

N1161

β-Nicotinamide adenine dinucleotide, reduced disodium salt hydrate

~98%, pkg of 100 mg

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Sigma-Aldrich

43420

β-Nicotinamide adenine dinucleotide, reduced disodium salt hydrate

≥97.0% (HPLC)

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Generation of Escherichia coli nitroreductase mutants conferring improved cell sensitization to the prodrug CB1954

Grove JI, et al.

Cancer research, 63(17), 5532-5537 (2003)

Nucleotide excision repair is a predominant mechanism for processing nitrofurazone-induced DNA damage in Escherichia coli.

Katherine R Ona et al.

Journal of bacteriology, 191(15), 4959-4965 (2009-05-26)

Nitrofurazone is reduced by cellular nitroreductases to form N(2)-deoxyguanine (N(2)-dG) adducts that are associated with mutagenesis and lethality. Much attention recently has been given to the role that the highly conserved polymerase IV (Pol IV) family of polymerases plays in

Nitroreductase catalyzed biotransformation of CL-20.

Bharat Bhushan et al.

Biochemical and biophysical research communications, 322(1), 271-276 (2004-08-18)

Previously, we reported that a salicylate 1-monooxygenase from *Pseudomonas* sp. ATCC 29352 biotransformed CL-20 (2,4,6,8,10,12-hexanitro-2,4,6,8,10,12-hexaaza-isowurtzitane) (C(6)H(6)N(12)O(12)) and produced a key metabolite with mol. wt. 346 Da corresponding to an empirical formula of C(6)H(6)N(10)O(8) which spontaneously decomposed in aqueous medium to

Testing double mutants of the enzyme nitroreductase for enhanced cell sensitisation to prodrugs: effects of combining beneficial single mutations.

Mansoor Jaberipour et al.

Biochemical pharmacology, 79(2), 102-111 (2009-08-12)

Prodrug activation gene therapy for cancer involves expressing prodrug-activating enzymes in tumour cells, so they can be selectively killed by systemically administered prodrug. For example, *Escherichia coli* nitroreductase (E.C. 1.6.99.7)(NTR), sensitises cells to the prodrug CB1954 (5-[aziridin-1-yl]-2,4-dinitrobenzamide), which it converts

Taiwanofungus camphorata nitroreductase: cDNA cloning and biochemical characterisation.

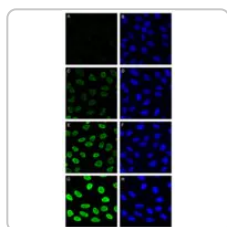
Chih-Chen Chen et al.

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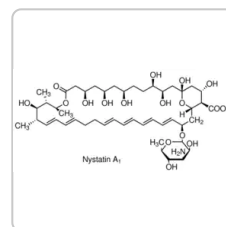
PRODUITS CONSULTÉS RÉCEMMENT



Sigma-Aldrich

N9162**Neocarzinostatin from *Streptomyces carzinostaticus***

≥90% (SDS-PAGE), ~0.5 mg/mL

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Sigma-Aldrich

N9150**Nystatin Ready made solution**
suitable for cell culture[Consulter le prix et la disponibilité](#)

Évaluations

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Questions

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